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A New Species of Lepidostomatid Caddisfly (Trichoptera) from South Primorye, the Russian Far East

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Abstract From South Primorye, the Russian Far East, *Goerodes salomatini* n. sp. is described for male, female, larva and case of larva. It is the 11th species of Lepidostomatidae, Trichoptera, in the Russian Far East.

Key words: Trichoptera; new species; the Russian Far East.

Recently, the lepidostomatid caddisfly fauna has been preliminarily revised in some countries of the Far East, i.e., by ITO *et al.* (1992) for Russia, by KUMANSKI and WEAVER (1992) for Korea and by ITO *et al.* (1993) for Japan. In the Russian Far East, ten species of this family have been known, and nine and five of them are common to Japan and Korea, respectively. In this paper, we are going to describe a new species from South Primorye, southernmost part of the Russian Far East. It is an 11th species of this family in the Far East of Russia.

Filiation between adult and larva was established by rearing larvae to adults, by dissecting mature pupae to examine their genitalic segments and by examining larval exuviae in pupal cases. The terminology used in this paper follows the senior author's previous paper (ITO, 1984). Since generic characters of *Goerodes* were given by ITO (1984), only specific characters are to be described. The type specimens are deposited in the collections of the Zoological Museum of the Russian Academy of Sciences, Sankt-Peterburg (ZMRAS). Other specimens are deposited in the collections of the authors (TI and TSV).

Goerodes salomatini n. sp.

(Fig. 1)

Male (Fig. 1 a–f). Body brown and 7 mm long. Antenna 9.5 mm. Scape (Fig. 1 a) 1.6 mm long and 2.8 times as long as head; a small break present near middle; basal half thicker than apical half; basal half covered with scales and setae and apical half covered with setae; a short basal process present on dorso-mesal

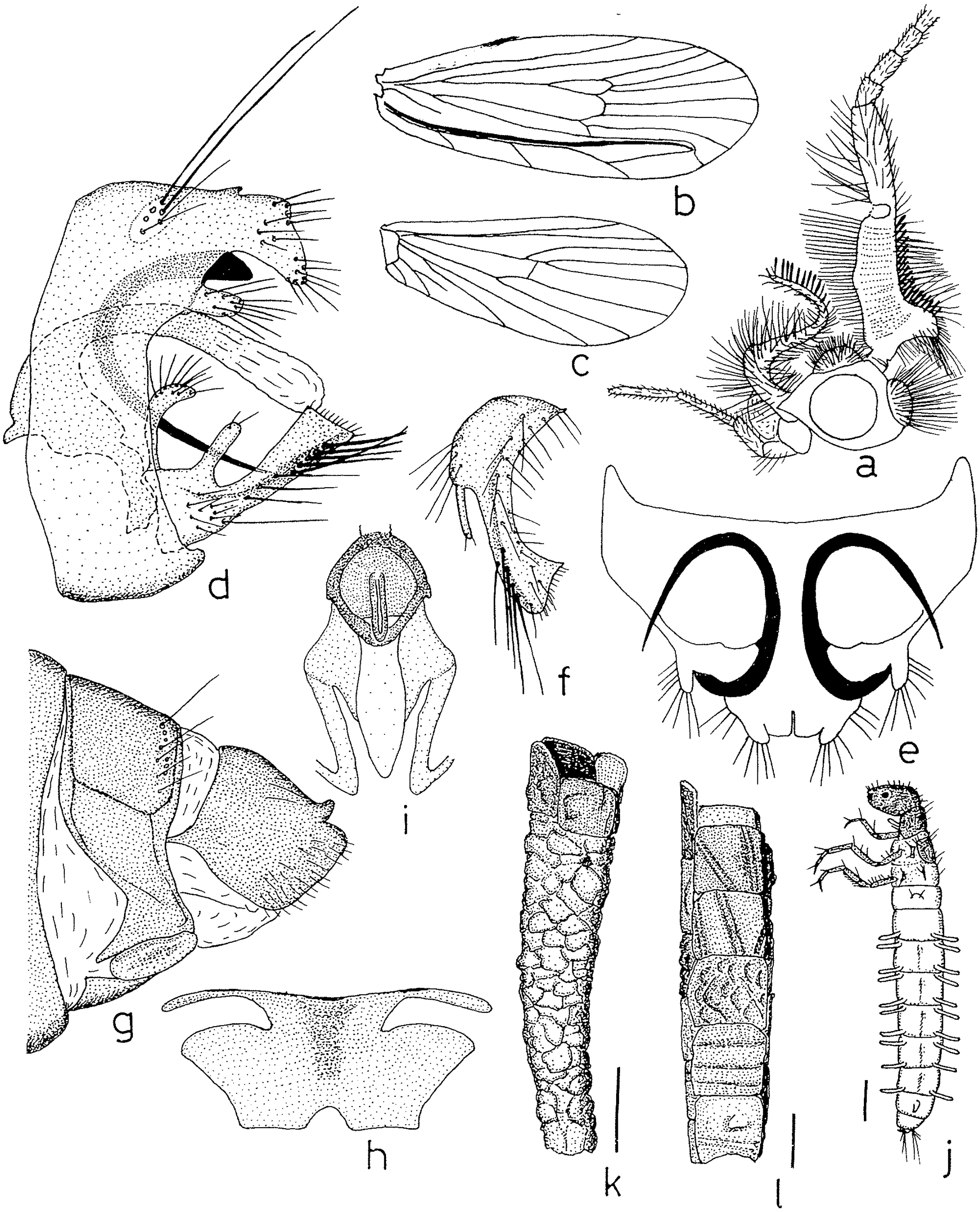

Fig. 1. *Goerodes salomatini* n. sp. Male (a–f): a, scape and mouth parts; b, fore wing; c, hind wing; d, genitalia, lateral view; e, tergite X, ventral view; f, clasper, ventral view. Female (g–i): g, segments VIII–X; h, subgenital plate; i, internal apparatus. Fith instar larva (j). Case (k, l): k, 4th instar larva; l, 5th instar larva. Scale, 1 mm.

surface. Maxillary palpus (Fig. 1 a) unsegmented, 0.8 mm long, strongly curved twice and densely covered with scales and setae. Labial palpus (Fig. 1 a) 3-segmented, 0.7 mm long in total and covered with setae.

Fore wing (Fig. 1b) 8.0 mm long and 2.8 mm wide; discoidal cell 1.1 mm long and thyridial cell 3.2 mm long; apical forks I and II present; long fold present on caudal area; fold covered with many short setae and a few scales. Hind wing (Fig. 1 c) 6.5 mm long and 2.5 mm wide; discoidal and thyridial cells open.

Genitalia (Fig. 1 d–f). Tenth tergite composed of mesal and lateral arms. Mesal arm triangular with subacute apex in lateral view (Fig. 1 d), subsquare with small outer lobes in dorsal and ventral views (Fig. 1 e); the outer lobe a little longer than the middle of mesal arm (Fig. 1 e). Lateral arm consisting of outer and inner branches (Fig. 1 d, e); outer branch short, 1/2 as long as mesal arm, and directed caudad; inner branch strongly sclerotized, very long, curved anteriorly at first and directed postero-laterad. Aedeagus curved ventrally. Paramere absent.

Main article of clasper (Fig. 1 d, f) thick at basal 1/3, rather thin at apical 2/3 and with subsquare apex. Superior harpe thin comb-like, directed dorsad and slightly curved caudally. Dorsal hook bar-shaped, situated near 1/3 from base of clasper, and 2/3 as long as superior harpe. Inner hook and inferior harpe absent.

Female (Fig. 1 g–i). Body brown and 6.5–7 mm long. Antenna ca. 7.5 mm long. Scape 1.1 mm long and 2.5 times of head. Fore wing ca. 7.5 mm long and ca. 2.7 mm wide. Hind wing 6.5 mm long and 2.5 mm wide. Both wings covered with setae.

Anterior margin of tergite VIII (Fig. 1 g) largely concave near lateral end. Lateral plate (Fig. 1 g) elliptical and depressive. Subgenital plate (Fig. 1 h) trapezoidal with deep, long subsquare concavities near antero-lateral corner of lateral margin and a small median concavity at posterior margin.

Internal apparatus (Fig. 1 i). Vaginal apparatus heavily sclerotized and rhomboidal with reduced lateral projections. Connecting folds and lateral bands weakly sclerotized; lateral bands tongue-shape.

Larva (Fig. 1 j). Body length and head width: 5–10 mm and 0.80 mm in 5th instar larva; 3–4 mm and 0.56 mm in the 4th. Small spines absent on dorsum of head of 5th instar larvae. Other characters as in *Goerodes kojimai* (TANI) (ITO, 1990).

Larval case (Fig. 1 k, 1). Cases of the 4th instar larvae are 4–7 mm long, cylindrical and made of sand grains at first, and change to four-sided of leaf pieces at early half of the instar (Fig. 1 k). Cases of the 5th (final) instar larvae are 10–17 mm long, four-sided and made of squarely-cut leaf pieces (Fig. 1 l).

Remarks. This species resembles *G. kojimai* (ITO, 1990) distributed in Honshu, central Japan (ITO *et al.*, 1993), but differs from the latter in male, female and larva. The outer lobe of mesal arm of tergite X is a little longer than the middle of mesal arm in male of this species, but the outer lobe is shorter than the middle of mesal arm in *G. kojimai*. The female vaginal apparatus is almost uniformly brown in this species, but the posterior half of the apparatus is darker than the anterior in *G. kojimai*. The abdominal gills of larva are arranged in subdorsal and subventral rows near the posterior margins from the 2nd to 7th segments and subdorsal and subventral rows near the anterior margins from 3rd to 6th segments in this species, but arranged in subdorsal and subventral rows near the posterior margins of 2nd to 7th segments and subventral row near the anterior margins of 3rd to 6th segments in *G. kojimai*.

Holotype. ♂, Russia, South Primorye, Khasanski Region, Troitza Bay, a stream beside a road between Vitya Village and Marine Experimental Station of Pacific Biochemical Institute, the Far East Branch of the Russian Academy of Sciences, 19. X. 1992 (larvae), reared till IV–V. 1993, T. S. VSHIVKOVA and T. ITO, ZMRAS.

Paratypes. 1 ♂ 2 ♀, 5 final instar larvae, same data as holotype, ZMRAS.

Other specimens. 1 ♀ 7 pupae (2 ♂ 5 ♀), 3 5th and 9 4th instar larvae, same data as holotype, TI. 1 ♀ 1 pupa (♂), 2 5th and 2 4th instar larvae, same data as holotype, TSV.

Habitat. Larvae of this species live in a small stream of a lowland forest, where the stream is of muddy bottom with abundant fallen leaves, 30–100 cm wide and 1–3 cm deep. Larvae of *G. elongatus* were also abundant there.

Distribution. Russia (South Primorye).

Etymology. This species is dedicated to Mr. Boris I. SALOMATIN who supported our field trip.

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